

II. Remarks

Reconsideration and allowance of the subject application are respectfully requested

Claims 1-8, 12-21, and 23-44 are pending in the subject application. Claims 1, 12, 19, 20, 25, 27, 32, 36, and 38 are independent.

Applicants have added new Claims 36-44 to afford themselves a scope of protection commensurate with the disclosure. The new claims are fully supported in the specification and Drawings, and are believed to be allowable for the reasons to be developed below.

In the Official Action, the Examiner has rejected claims 1, 2, 5 to 16, 19-23, 25 and 27-35 under 35 U.S.C. §102(c) as being anticipated by U.S. Patent No. 7,030,861 to Westerman et al. ("Westerman"). Claims 3 and 4 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Westerman in view of U.S. Patent Application Publication No. 2004/178997 to Gillespie et al. ("Gillespie"). Claims 17, 24, and 26 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Westerman in view of U.S. Patent No. 6,310,610 to Beaton et al. ("Beaton"). Applicants thank the Examiner for indicating allowable subject matter in claim 18. Applicants, however, respectfully maintain that claims 1-8, 12-21, and 23-44 distinguish patentably over the cited prior art for the reasons set forth below.

According to one aspect of the Applicants' invention as defined by independent claim 1, Applicants provide a gesture recognition method comprising displaying an image on a touch surface and capturing images looking generally across the touch surface. The captured images are processed to detect pointer contacts on the touch surface and the pointer contacts are examined to recognize successive pointer contacts representing a gesture based on the relative positions of the pointer contacts. When successive pointer contacts representing a gesture occur, the displayed image is updated in accordance with the gesture.

In contrast, Westerman discloses a multi-touch system that compares finger arrangements at the beginning of multi-touch gestures and discriminates between neutral and spread-hand performances. Gestures by the neutral and spread-hand versions of each chord are then mapped to separate, but intuitively related cursor functions or sets of commands. Less-

frequently performed functions and commands are typically assigned to the spread-hand chord, since spreading the hand from neutral takes deliberate effort. This allows a two-handed gesture set to be packed into a one-handed touch surface. The touch-surface comprises compressible cushion, dielectric, electrode and circuitry layers. Distributed transduction circuitry is used to determine the x and y coordinates of contacts on the touch surface. The computed x and y coordinates are output and used to generate an image.

In the primary embodiment, Westerman employs proximity sensors that detect flesh contact with touch surface. In alternative embodiments, Westerman suggests that separate optical or acoustic sensing systems could be used to image the hands and infer contact with the touch surface. The gesture set taught by Westerman is based on finger and hand position identification on the touch surface. For example, neutral/relaxed chord positions are interpreted as mouse operations while spread chord positions are interpreted as text cursor operations.

Contrary to the Examiner's allegation, Applicants respectfully submit that Westerman fails to teach or suggest the Applicants' invention as claimed. Firstly, Westerman does not teach or suggest capturing images **looking generally across the touch surface** and processing the captured images to detect pointer contacts on the touch surface as alleged by the Examiner. In no way does Westerman capture images looking across the touch surface and process the captured images to detect pointer contacts. Although Westerman suggests that an optical sensing system can be used to image the hands and infer contact with the touch surface, no description of how such hand imaging is disclosed. Secondly, Westerman does not teach or suggest examining pointer contacts to recognize **successive pointer contacts** representing a gesture. Each gesture in the Westerman gesture set is determined by the initial hand position (neutral or spread) on the touch surface. No single Westerman gesture is represented by successive pointer contacts on the touch surface. Rather, successive contacts on the Westerman touch surface are treated as different gestures. Accordingly, Applicants respectfully submit that the Examiner's rejection of independent claim 1 in view of Westerman should be removed.

Gillespie discloses a method of generating a signal comprising providing a capacitive touch sensor pad including a matrix of x and y conductors, developing capacitance profiles in one of an x direction and a y direction from the matrix, determining an occurrence of

a single gesture through an examination of the capacitance profiles and generating a signal indicating the occurrence of the gesture. The gesture includes an application of at least two objects on the capacitive touch sensor pad.

Similar to Westerman, Gillespie fails to teach or suggest capturing images looking generally across the touch surface and processing the captured images to detect pointer contacts, with the pointer contacts being examined to recognize successive pointer contacts representing a gesture based on the relative positions of the pointers.

Beaton discloses a system comprising a touch-responsive graphical user interface for electronic devices. The graphical user interface determines a pointer size of the object making contact with a display and activates a function corresponding to the pointer size. The graphical user interface invokes a wide array of functions such as a navigation tool, draw function, erase function or drag function.

Similar to Westerman and Gillespie, Beaton fails to teach or suggest capturing images looking generally across the touch surface and processing the captured images to detect pointer contacts on the touch surface, with the pointer contacts being examined to recognize successive pointer contacts representing a gesture based on the relative positions of the pointer contacts.

As will be appreciated by the Examiner, none of the cited references either alone or in combination, teaches or suggests Applicants' invention as defined by independent claim 1. Accordingly, Applicants respectfully submit that this claim and the claims dependent thereon distinguish patentably over the cited references and should be allowed.

Independent claims 20, 25 and 27 recite subject matter analogous to that recited in independent claim 1. Applicants therefore respectfully submit that these claims and the claims dependent thereon distinguish patentably over the cited references for the same reasons set forth above and should be allowed.

Independent claims 12, 19, 32, 36 and 38 recite the allowable subject matter of original claim 18. In particular, each of these independent claims recites that captured images are processed to detect *movement and type of pointers* thereby to recognize a gesture. As the Examiner has correctly noted in the Official Action, the cited references fail to teach or suggest

this feature. Accordingly, Applicants respectfully submit these independent claims and the claims dependent thereon distinguish patentably over the prior art and should be allowed.

In view of the above, it is believed that this application is now in condition for allowance, and a Notice thereof is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3507. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

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